FermiGrid Scalability and Reliability Improvements

The Fermilab Campus Grid (FermiGrid)is a meta-facility that provides grid infrastructure for scientific computing at Fermilab. It provides highly available centralized authorization and authentication services, a site portal for Globus job submission, coordination for interoperability among the various stakeholders, and grid-enabled mass storage interfaces. We currently support approximately 25000 batch processing slots. This paper will describe the current structure of FermiGrid and recent improvements in scalability and reliability of our authorization and authentication services. These improvements include orders of magnitude improvement in our web services based Site AuthoriZation service (SAZ). We will also describe recent enhancements to the information system and matchmaking algorithm of our site job gateway. Finally we will describe the FermiGrid HA-2 project currently under way which distributes our services across two buildings, making us resilient in the case of major building outages.

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